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BMR Series Geroler Gear Type – Hydraulic Orbital Motors – Axil Distribution Motors – 4 Hole

Flange 4 = Ø13.5 Rhomb-flange, pilot Ø82.5x8 – Shaft A = Ø25 Cylindrical Shaft, parallel key 8x7x32

BMR SERIES HYDRAULIC MOTOR

BMR series motor adapt the advanced Geroler gear set design with shaft distribution flow, which can automatically compensate in operating with high pressure, provide reliable and smooth operation, high efficiency and long life.

Characteristic features:

*Advanced manufacturing devices for the Gerolor gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.

*Shaft seal can bear high pressure of back and the motor can be used in parallel or in series.

*Special design in the driver-linker and prolong operating life

*Special design for distribution system can meet the requirement of low noise of unit.

*Compact volume and easy installation

Main Specification

Technical data for BMR with 25 and 1 in and 1 in splined and 28.56 tapered shaft

Type		BMR BMRS 36	BMR BMRS 50	BMR BMRS 80	BMR BMRS 100	BMR BMRS 125	BMR BMRS 160	BMR BMRS 200	BMR BMRS 250	BMR BMRS 315	BMR BMRS 375
Geometric displacement (cm^3/rev.)		36	51.7	81.5	102	127.2	157.2	194.5	253.3	317.5	381.4
Max. speed (rpm)	cont.	1085	960	750	600	475	378	310	240	190	155
	int.	1220	1150	940	750	600	475	385	300	240	190
Max. torque (N•m)	cont.	72	100	195	240	300	360	360	390	390	365
	int.	83	126	220	280	340	430	440	490	535	495
	peak	105	165	270	320	370	460	560	640	650	680
Max. output (kW)	cont.	8.5	9.5	12.5	13.0	12.5	12.5	10.0	7.0	6.0	5.0
	int.	9.8	11.2	15.0	15.0	14.5	14.0	13.0	9.5	9.0	8.0
Max. pressure drop (MPa)	cont.	14.0	14	17.5	17.5	17.5	16.5	13	11	9	7
	int.	16.5	17.5	20	20	20	20	17.5	15	13	10
	peak	22.5	22.5	22.5	22.5	22.5	22.5	22.5	20	17.5	15
Max. flow (L/min)	cont.	40	50	60	60	60	60	60	60	60	60
	int.	45	60	75	75	75	75	75	75	75	75
Weight (kg)		6.5	6.7	6.9	7	7.3	7.6	8.0	8.5	9.0	9.5

* Continuous pressure:Max.value of operating motor continuously.
* Intermittent pressure:Max.value of operating motor in 6 seconds per minute .
* Peak pressure:Max.value of operating motor in 0.6 second per minute.

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Performance Data

BMR 50 [51.7cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14 (Max.cont.)	16	17.5 (Max.int.)
5	35	45	61	67	77	88		
	93	**84**	**76**	**73**	**69**	**46**		
10	36	46	62	69	80	95	108	120
	186	**178**	**166**	**162**	**153**	**136**	**118**	**97**
15	35	49	63	73	88	100	109	123
	283	**277**	**269**	**261**	**250**	**230**	**211**	**185**
20	34.5	47	61	69	83	96	109	126
	377	**375**	**365**	**361**	**346**	**330**	**302**	**270**
30	33	44	60	67	80	95	108	126
	576	**569**	**561**	**554**	**542**	**531**	**500**	**465**
40	30	41	58	66	79	92	106	122
	760	**758**	**753**	**750**	**738**	**724**	**700**	**670**
45	29.5	40	57	65	78	90	105	121
	856	**853**	**849**	**845**	**835**	**815**	**796**	**770**
Max.cont. 50	26	37	53	60	73	85	99	114
	950	**940**	**925**	**906**	**880**	**852**	**832**	**801**
Max.int. 60	20	33	48	56	69	81	95	109
	1138	**1124**	**1100**	**1075**	**1056**	**1028**	**1006**	**970**

BMR 80 [81.5cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14 (Max.cont.)	16	17.5	20 (Max.int.)
5	50	64	88	108	133				
	59	**56**	**50**	**44**	**38**				
10	54	77	99	108	129	150	173		
	118	**113**	**106**	**97**	**86**	**79**	**56**		
20	57	78.0	102	111	134	155	177	196	225
	238	**234**	**227**	**216**	**203**	**190**	**178**	**154**	**135**
30	54	75	100	108	131	152	176	195	223
	360	**352**	**340**	**332**	**316**	**302**	**290**	**274**	**250**
40	48	73	96	105	127	148	172	190	220
	480	**470**	**458**	**445**	**430**	**418**	**403**	**388**	**359**
50	42	70	93	102	124	147	170	188	218
	604	**595**	**582**	**570**	**556**	**540**	**521**	**504**	**487**
Max.cont. 60	37	66	89	98	121	144	166	184	213
	726	**715**	**704**	**692**	**678**	**663**	**647**	**622**	**594**
70	32	60	83	95	116	140	160	177	208
	845	**834**	**820**	**802**	**789**	**767**	**754**	**730**	**705**
Max.int. 75	21	50	78	90	111	135	154	171	200
	910	**895**	**881**	**867**	**852**	**830**	**806**	**787**	**756**

Torque (N•m) 135
Speed (rpm) **830**

BMR 100 [102cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16 (Max.cont.)	17.5	20 (Max.int.)
5	66	92	120	135	156				
	45	**42**	**38**	**34**	**27**				
10	68	96	125	138	159	188	212		
	93	**90**	**86**	**81**	**74**	**57**	**42**		
20	65	94.0	123	137	155	186	210	238	274
	189	**185**	**180**	**173**	**165**	**158**	**150**	**139**	**118**
30	63	92	120	133	153	185	209	235	270
	286	**281**	**275**	**266**	**257**	**246**	**237**	**225**	**207**
40	57	88	117	130	152	185	208	233	267
	385	**378**	**365**	**355**	**345**	**332**	**320**	**314**	**297**
50	48	79	110	123	150	183	204	228	260
	482	**477**	**470**	**460**	**448**	**435**	**420**	**405**	**389**
Max.cont. 60	38	70	105	120	144	178	200	220	252
	580	**572**	**560**	**548**	**535**	**523**	**510**	**500**	**478**
70	32	65	100	118	141	176	197	215	246
	678	**670**	**660**	**648**	**638**	**626**	**615**	**606**	**580**
Max.int. 75	23	59	93	111	136	170	192	210	240
	728	**720**	**710**	**695**	**681**	**667**	**650**	**634**	**618**

cont.
int.

BMR 160 [157.2cm³/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16 (Max.cont.)	17.5	20 (Max.int.)
5	104	146	190	210	245				
	26	**23**	**20**	**16**	**10**				
10	107	150	195	216	250	290	335		
	59	**56**	**50**	**45**	**37**	**30**	**22**		
20	102	151	198	220	257	298	342	370	420
	121	**118**	**115**	**113**	**108**	**102**	**97**	**90**	**78**
30	97	146	190	217	256	295	340	368	416
	184	**178**	**173**	**170**	**164**	**155**	**143**	**128**	**103**
40	89	140	185	210	252	290	335	363	412
	246	**241**	**235**	**228**	**220**	**210**	**194**	**177**	**150**
50	72	128	179	202	244	284	327	358	409
	310	**307**	**300**	**295**	**287**	**278**	**262**	**247**	**210**
Max.cont. 60	60	116	170	198	240	279	321	352	400
	374	**367**	**359**	**354**	**346**	**338**	**323**	**306**	**265**
70	49	107	164	193	233	271	309	344	390
	437	**430**	**421**	**415**	**403**	**393**	**381**	**365**	**318**
Max.int. 75	36	98	152	185	226	265	300	334	379
	472	**463**	**450**	**441**	**431**	**420**	**405**	**389**	**365**

BMR 375 [381.4cm³/rev.]

Pressure (MPa)

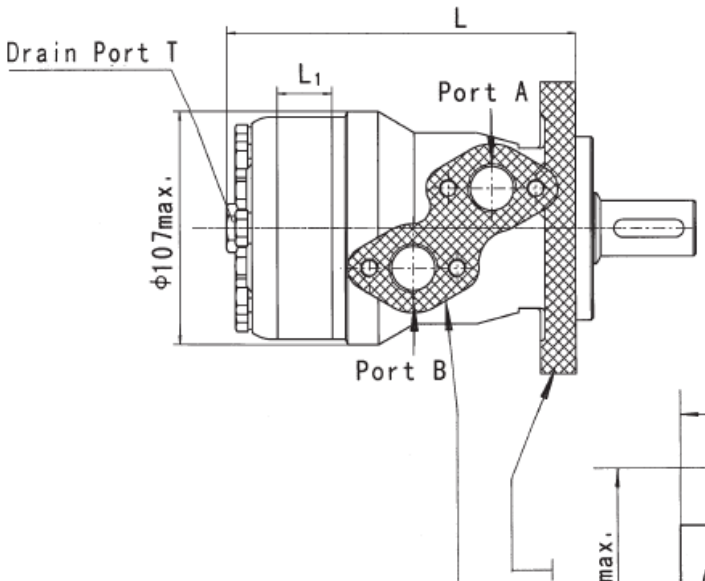
Flow (L/min)	3	4.5	5.5	6.5	8	10 (Max.cont.)	12.5	14 (Max.int.)
5	153	232						
	12	**10**						
10	157	236	284	337	406	497	612	668
	24	**23**	**22**	**21**	**19**	**17**	**15**	**12**
20	150	232	280	332	401	490	606	660
	49	**48**	**47**	**46**	**44**	**41**	**38**	**32**
30	142	215	274	327	398	483	603	652
	76	**75**	**74**	**73**	**71**	**67**	**63**	**50**
40	126	212	268	320	393	477	593	635
	103	**101**	**99**	**97**	**95**	**92**	**88**	**70**
50	105	187	242	302	376	455	583	608
	128	**126**	**124**	**121**	**118**	**115**	**111**	**96**
Max.cont. 60	90	167	229	281	362	444	566	600
	154	**152**	**150**	**148**	**145**	**138**	**130**	**121**
70	90	149	200	258	341	425	546	580
	180	**179**	**178**	**176**	**173**	**168**	**160**	**148**
Max.int. 75	56	125	182	241	320	408	524	565
	195	**194**	**193**	**191**	**189**	**185**	**178**	**170**

cont.
int.

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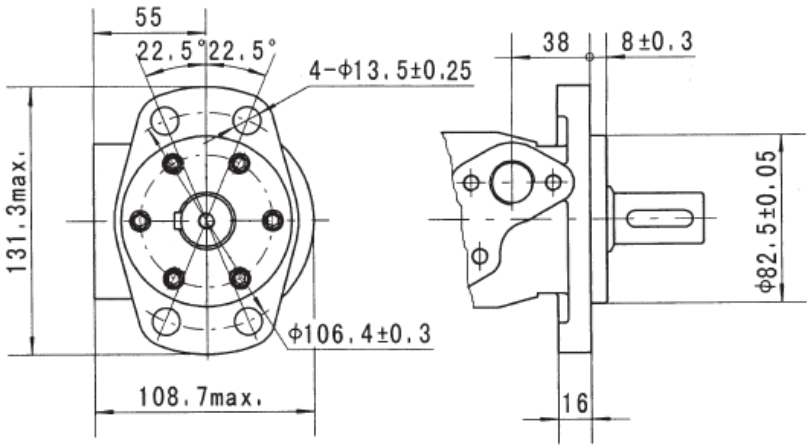
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BMR DIMENSIONS AND MOUNTING DATA

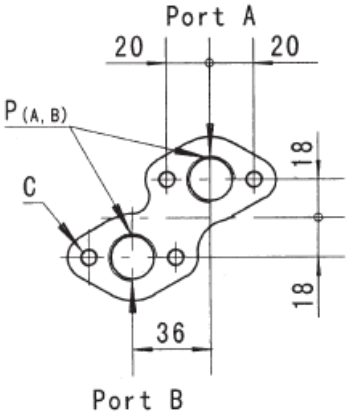


Mounting \ Code	D (depth)
P(A,B)	G1/2 (15)
C	4-M8 (13)
T	G1/4 (12)

Flange 4

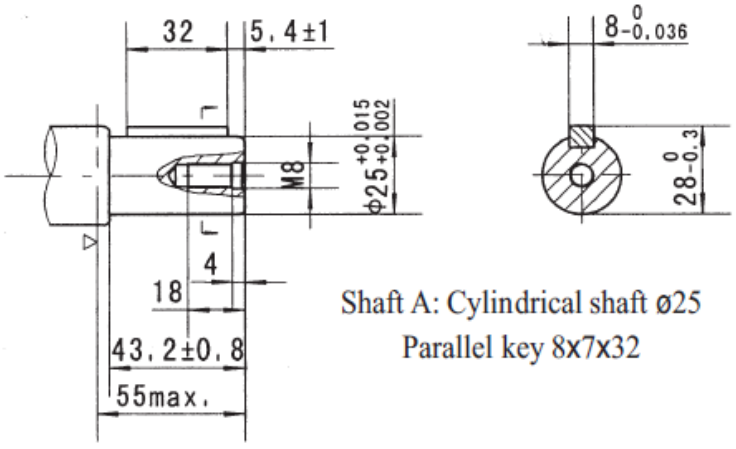


PORT



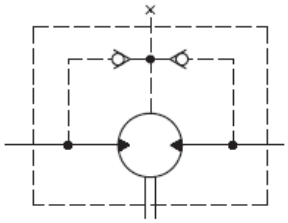
Model	L	L1
BMR50	140	10
BMR80	146	16
BMR100	150	20
BMR160	161.5	30.5
BMR375	204	74

BMR SHAFT EXTENSIONS DIMENSIONS DATA



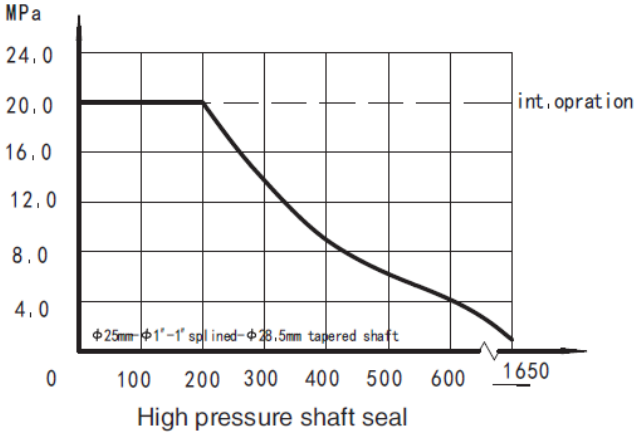
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32

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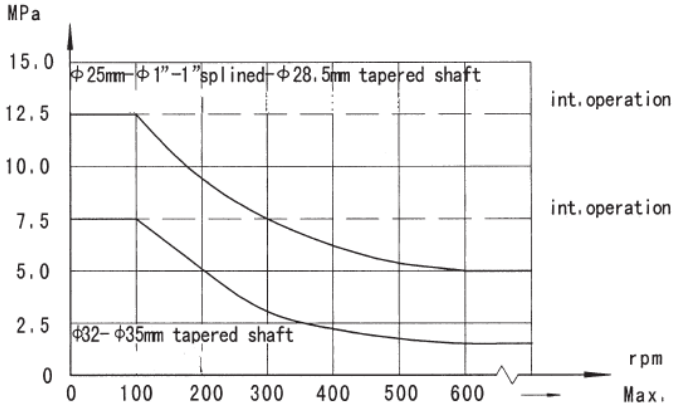


BMR、BMRS Series Hydraulic Motor

Permissible shaft seal pressure



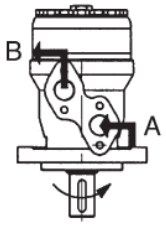
High pressure shaft seal



In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

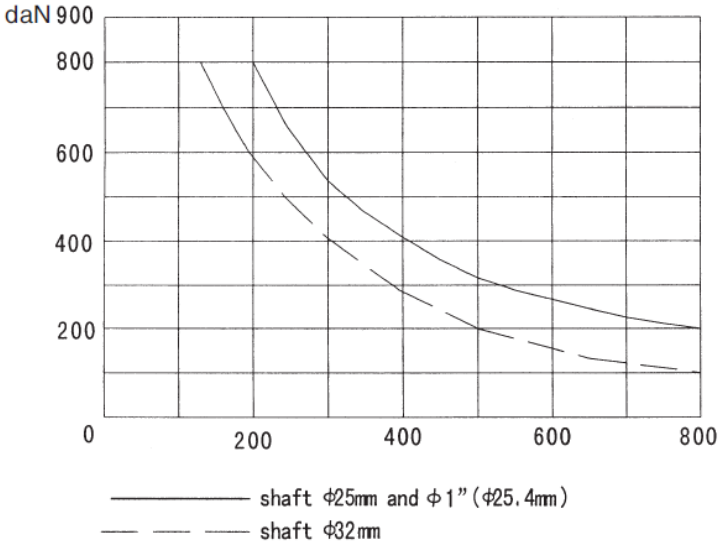
Direction of shaft ration : Standard

When facing shaft end of motor,shaft to rotate:
Clockwise when port "A" is pressurized.
Counter-clockwise port "B" is pressurized.

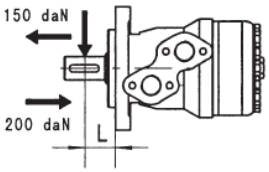


BMR

Status of the shaft's radial force
(Standard motor with journal bearing)



$$F_r = \frac{800}{n} \cdot \frac{25000}{95+L} \text{ daN}$$



F_r =Radial Force (daN)
L =Distance (mm)
n =Speed (rpm)
Rhomb-flange L=30mm
Square-flange L=24mm

Oil flow in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (MPa)	Viscosity (mm2/s)	Oil flow in the drain line (L/min.)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8